EDITORIAL

The Overlapping Spectrum of Radiologic Signs in Chronic Ulcerative Colitis and Crohn's Disease of the Colon

EVER SINCE Marshak, Wolf, and Eliasoph[1] described the radiologic signs of Crohn's disease of the colon, which they called segmental colitis, concentrated efforts have been made by radiologists to establish definitive criteria for the differentiation between that disease and chronic ulcerative colitis. In 1966, Marshak and Lindner[2] wrote the article that further defined the signs and made the distinction easier in most instances. The two classic articles by Lockhart-Mummery and Morson[3,4] established the basis of differentiation for the pathologist and confirmed and further supported the radiologic interpretation of Marshak and his associates.

Because the radiologic and histologic findings conformed to the typical clinical course of these diseases as they appeared in the great majority of patients, it seemed that what was needed for diagnosis was only a strict application of the criteria, and perhaps addition of some further refinements to increase their accuracy. Clinicians, radiologists and pathologists continue to have difficulties, however, in making a diagnosis in many patients, and articles on differential signs of chronic ulcerative colitis and Crohn's disease continue to be written.

Glotzer and his coworkers,[5] using histologic criteria to differentiate between these two forms of colitis, found an overlap in about one fourth of the patients they studied. A similar overlap was encountered by Schachter and his associates,[6] who concluded that histologic interpretations are not the absolute criteria for diagnosis if they are opposed by clear-cut clinical and radiologic findings. Margulis and his associates,[7] in a study of the radiologic findings in 150 histologically proved cases of either chronic ulcerative colitis or Crohn's disease of the colon, found the diagnostic accuracy of three gastrointestinal radiologists to be between 70 and 79 percent. It is interesting that, although these three groups of investigators used different approaches, they all arrived at approximately the same results: In about one fourth of their cases, the diagnostic criteria used by them failed to distinguish the two forms of colitis. This really is not surprising because the causes for the two diseases have not been established. The two conditions may embrace a number of yet-unidentified diseases, or they may really represent one disease that has a wide spectrum of manifestations. There are, however, radiologic signs, as G. W. Friedland points out in this issue of CALIFORNIA MEDICINE, that are generally reliable in establishing the diagnosis of Crohn's disease if only these two forms of colitis are considered, and not other inflammatory diseases of the large bowel. These radiologic signs are deep ulcers, sinuses, fistulas, and a narrowed and ulcerated terminal ileum. None of these signs, however, are absolutely accurate.

Goldberg, Carbone, and Margulis[8] have shown that the radiologic appearance of ulcerative colitis can change with treatment. Nelson et al[9] demonstrated that, at various stages in the same patient, the radiologic appearance of the colon may change, whether the patient is afflicted with chronic ulcerative colitis or Crohn's disease. Margulis et al[7] found fistulas in a small number of patients who had chronic ulcerative colitis. Even the terminal ileum in patients with Crohn's disease may appear normal by rigorous radiologic criteria and yet be found to be involved at resection.[10]

Using all signs together, the radiologist, like the clinician and the pathologist, is still diagnostically accurate in about three-fourths of the patients. It becomes, then, a question of attitude—whether one emphasizes the fact that it is possible to make the diagnosis in 75 percent of cases or laments the chance of 25 percent error.

Considering the present stage of knowledge

about the nature of the two conditions, even the 75 percent accuracy is impressive.

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"Prolixity Will be Construed as Uncertainty"

IN THE ERA of essay examinations, the warning, "Prolixity will be construed as uncertainty," was sounded before all of our anatomy examinations in our first year in medical school. The exhortation comes to mind now as we attempt to review the published reports on septic shock. Since the initial article on bacteremia due to enteric Gram-negative bacilli other than salmonellae came from the University of Minnesota in 1951,[1] there has been a major investigative effort to elucidate the pathophysiologic features and to develop rational and effective therapy for shock associated with bacteremia. Among the investigators, Doctors Weil and Shubin have been leaders, Doctor Weil's interest having been kindled in his early years at the University of Minnesota.

Interest in Gram-negative bacillary bacteremia has become widespread not only because of the recognition of the problem, but also because the frequency of such infections is increasing.[2] For example, at one university hospital where the average daily census is 300 patients, there are 200 cases of bacteremia due to Gram-negative bacilli annually, with a mortality of 34 percent.[3] The frequency of Gram-negative bacillary bacteremia varies from hospital to hospital, but a prevalence of 0.8 percent of admissions is not uncommon. If this figure is projected to the 32,895,000 patients discharged from general hospitals in the United States in 1971, approximately 260,000 cases of Gram-negative bacillary bacteremia can be expected per year in the United States. The fatality rate varies between 20 and 50 percent. Assuming an average mortality midway between these values, 91,000 deaths per year may be attributed to Gram-negative bacillary bacteremia.

Against this background, the prevention and treatment of "Gram-negative" or "endotoxic" shock is a subject of major importance to all physicians. The review by Weil and Shubin which is published elsewhere in these pages summarizes current approaches to the treatment of patients with bacteremic shock which have been drawn from their careful and extensive physiological studies at the Shock Research Unit. All physicians should read this review. While the suggestions are not above controversy, Weil and Shubin have avoided being dogmatic, have emphasized the basic generalizations with which almost all clinicians agree, and have indicated the areas in which clear proof of therapeutic efficacy of a given regimen is lacking. The generalizations with which there is almost complete agreement include: sound surgical principles, such as draining of loculated pus, must be applied in the treatment of infections; early initiation of appropriate systemic antibacterial therapy is essential; and measures should be directed at the improvement of oxygenation at the cellular level. The fields of controversy include the value of corticosteroid drugs and of anticoagulation, vasopressor and vasodilator drugs.

However, as Weil and Shubin point out, even with modern tools of applied clinical physiology to correct circulatory collapse, the incidence and mortality of "Gram-negative" shock remain high. Emphasis must be directed at prevention, since many of these infections are acquired as a consequence of procedures which are considered by many physicians as minor, benign and routine, and as such are overlooked as important potential sources of Gram-negative bacillary bacteremia. Such procedures include the prolonged use of indwelling venous catheters, failure to employ properly closed urinary drainage systems, the use of ventilatory therapy equipment which has not been